Cost Accounting
Best Practices Summary

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Notes from –
"Building Better Financial Management Support --
Functions, systems and activities for producing financial information",
Australian National Audit Office, July 2002

Cost is a measure of the value of resources consumed in acquiring or delivering a product or service. Understanding costs and the ability to control the cost of operations is an integral part of good financial management.

Once an organization has decided what it wants to cost (the cost object), the next decision to be made is what costs to capture. This depends on the objective of the decision at hand. For most decisions an organization will be interested in 'full costs'. In a typical public sector organization the full cost of an object will include:

- Labor costs, including salary costs and associated on costs;
- Administrative and operational costs including travel, rent, repairs and maintenance, cleaning and utility charges;
- Capital costs, including depreciation and capital use charges; and
- General management and support costs.

These costs need to be accumulated in the accounting system and allocated to cost objects. The most accurate results are achieved when as many costs as possible are allocated to a cost object based on a direct relationship. Where there is no direct relationship, or the cost of establishing this relationship would be prohibitive, costs will need to be 'pooled' and allocated across a range of cost objects.

Determining the method used to collect the cost of an object requires careful analysis of the nature of the organization's operations-in particular, a clear understanding of the requirements for, and intended use of, the cost information. Different industries or organizations employ different forms of costing depending on their circumstances and the nature of their operations. There are five common forms of costing methods:

- Activity based costing
- Job costing
- Process costing
- Standard costing
- Batch costing

<u>Activity based costing</u>
Activity based costing is defined as the attribution of resource consumption by activities and the allocation of activity costs to cost objects via cost drivers. Activity Based Costing (ABC) has recently gained wide acceptance in the service sector and has become the preferred method of costing throughout a wide range of commercial and government organizations. The basic principle of ABC is that the performance of activities within an organization gives rise to the incurrence of cost and that cost objects consume activities. Accordingly costs are traced firstly to activities and then activity costs are traced to cost objects.

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Activities are the tasks performed within an organization that together result in the delivery of its outputs. The number of activities identified depends on the reasons ABC is being implemented and the degree of accepted risk regarding the distortion of costs.

Staff time is a major cost in most public sector organizations and a key element of ABC is the methodology to trace these costs to specific activities. Ideally the process must be robust and as accurate as possible. Determination of the technique used depends on such factors as the resources (costs and staff time) available, desired frequency of revision, purpose of the ABC implementation and desired level of accuracy. Common techniques for allocating staff time include interviews, workshops, sampling and time recording.

In some cases, certain operational staff may be able to assign their time directly to an output, generally however, staff will not able to assign their time to a specific output. In these cases, their time should be traced to activities, and the cost of each activity allocated amongst the relevant cost objects using an appropriate activity driver.

ABC provides the following advantages:

- Output costs are supported by a schedule of costed activities instead of a conventional expenditure classification analysis;
- Opportunities to examine work processes;
- Identifies non value-adding activities that can be eliminated without effecting the quality or utility of the service delivered;
- Basis of a performance measurement system and a direct link between strategic goals and operational realities;
- Enables cost profiles to be managed;
- Accurate costing data to operational management; and
- Costs that are transparent, understandable and actionable.

The disadvantages of ABC include:

- Activity definition may become too detailed and organizations may build a model that is too complex and difficult to maintain;
- Under estimating the task of collecting activity driver data;
- Specialist software tools are required to provide quality implementations;
- The model fails to keep pace with organizational change; and
- Implementation is considered a financial management iafadlm and insufficient commitment from operational managers is given.

<u>Job costing</u>

Job costing is most commonly used by organizations operating in a project or task oriented environment. Job (or project) costing is an approach to costing outputs that are:

- Discrete;
- Have individual characteristics; and
- Are designed to satisfy the requirements of a particular customer.

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Employment costs are charged via time sheets and direct materials and expenses are directly allocated to the job. A work-in-progress (WIP) account is maintained in the general ledger to control jobs currently under way. At the completion of the job, the actual costs charged are transferred from the job account, and WIP, and charged to period costs.

The basic steps in establishing a job costing system are as follows:

- Assignment of corporate service costs to operating units;
- Establishment of cost centers for each organizational unit for the accumulation of employment costs and other expenditures;
- Calculation of hourly rates for each grade of employee who charge time to jobs. The calculation of this rate will include direct salaries and on-costs, cost centre overheads and the assigned corporate overheads divided by the budgeted number of direct or chargeable hours;
- Establishment of a job time recording and cost accumulation system;
- Establishment of an employee time utilization and tracking system which integrates with the costing system; and
- Establishment of accounting routines to record actual cost centre expenditures and cost recovered via chargeable hours.

Advantages of job costing are:

- A clear link is established between the accounting framework and operational realities;
- Reporting is available by organisational unit and by job; and
- Time recording can encompass records of time spent on different activities within the job life cycle.

Disadvantages of job costing include:

- Heavily dependent on accurate cost collection and a large volume of transaction processing;
- Expensive data collection methods may be required to reduce the incidence of costs recovered through the application of overhead recovery rates (eg. telephone calls, photocopying, word processing, computer usage); and
- Specialist job costing software is normally required.

Process Costing

Process costing is applicable to instances where the individual unit of output cannot be identified and costs cannot therefore be traced directly to these outputs. Process costing was developed to satisfy the requirements of industries that process raw materials in bulk and the production flow is made up of a number of continuous processes where output from one process becomes the input to the next process in the production flow. This production flow can be found in oil refining, water treatment and a wide range of chemical plants.

In the service and government sectors the same production flow is present in an office environment even if the only tangible evidence of this is paper documents. An example of this would be found in processing a benefit claim. It is not feasible to cost each individual claim, however, costs can be traced to each of the processes that the claim undergoes and an average unit process cost calculated by dividing the total process cost by the number of units produced.

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The basic steps in establishing a process costing system are:

- Establishing accounts for the collection of process costs. These may not be necessarily the same as organizational units and methods may have to be established to trace employment and indirect costs to a process cost pool;
- Corporate services costs have to be assigned to the user organizational units and then to processes;
- Costs have to be established for each process account;
- Quantities have to be collected for each unit of process production;
- Care has to be exercised when one process can provide input to more than one subsequent process. Costs will have to be assigned on the basis of output quantities; and
- Individual processes have to be linked to the organizations outputs.

Process costing suits transaction-driven organisations, its advantages are:

- It can be accommodated without the need for specialist software;
- Costing information produced is readily identifiable with operational realities; and
- Lends itself to the integration of standard costs.

Disadvantages of process costing include:

- It is dependent on there being a close match between expenditure incurred and output achieved. Large holdings and fluctuations in work in progress will distort the reported unit costs;
- On their own, calculated process costs do not provide management with an indication as to why costs are at the reported level; and
- It is dependent on the presence of a production flow and would not be suitable in all circumstances, for example, in an advisory or policy support environment.

Notes from –
"ACTIVITY BASED COSTING IN THE INFORMATION AGE"
By James D. Tarr, MBA

Most enterprises still use standard cost systems both to value inventory for financial statement purposes and for many other management purposes as well. Using standard cost is, at best, meaningless and, at worst, misleading as a tool to assist in making effective management decisions.

Standard Accounting was developed for companies that had:

- Homogeneous products
- Large direct costs compared to indirect costs
- Limited ability to collect data
- Low "below the line" costs.

Today's company typically has:

- A wide variety and complexity of products and services
- High overhead costs compared to direct labor
- An overabundance of data

- Substantial non product costs that can dramatically affect true product, distribution channel and customer profitability.

Additionally today we have high tech, high-speed data collection and reporting tools. With the proper system, gathering and manipulation of data in multiple complex ways is no longer an issue.

The shortcomings of traditional cost accounting for evaluating business organization effectiveness are clear:

- Because of the "leveraging effect" of direct labor overhead application (e.g. $3 of overhead "reduction" for every $1 of direct labor reduction), there is a continuing emphasis on direct labor reduction
- The arbitrary application of overhead, the largest component (sometimes more than 50%) of cost, means that there is little true knowledge of product cost.
- Arbitrary costs lead to incorrect make/buy decisions
- Since overhead resources are used by different products and product lines at substantially different rates, a change in product mix can lead to dramatically cost changes that will not be predicted accurately by traditional cost systems.
- Traditional cost accounting provides little information beyond material and direct labor to assist management to control costs at the product level or below. The primary management information tool, variances, is easily manipulated and probably of dubious value even if not manipulated
- Traditional cost accounting provides no guidance to the manager on the effect of sales, marketing, distribution and customer costs on product or product line profitability.
- If traditional cost accounting is an ineffective management tool for manufacturing companies, the problem is substantially worse for service organizations.
    - Distribution organizations typically carry items they distribute at cost and do not differentiate overhead process costs by product, customer or distribution channel. Thus no information on true product, product mix, distribution channel or customer profitability can be obtained. The only thing that can be known is overall profitability or loss.
    - Service organizations with no "product" often only have available total revenue, a summary of expenses and the resulting profit or loss. Specific services aren't identified and costed in any way. Thus, management had no tools whatever with which to make proper service mix and service profitability decisions.

ACTIVITY BASED MANAGEMENT – Definition:

> "A discipline that focuses on the management of activities as the route to continuously improving the value received by customers and the profit achieved by providing this value. This discipline includes cost driver analysis, activity analysis and performance analysis. Activity Based Management draws on activity based costing as a major source of information.", -- Peter B. B. Turney

Activity Based Costing (ABC) does not change the way material and direct labor are attributed to manufactured products with the exception that direct labor loses its special place as a surrogate application method for overhead resources. Direct labor is considered another cost pool to be assigned to processes and products in a meaningful manner, no different than any other resource.

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The primary task of activity based costing is to break out indirect activities into meaningful pools which can then be assigned to processes in a manner which better reflects the way costs are actually incurred

Activity Based Costing adds the most value to an organization when it is used as the informational basis of managing and improving the business. Activity analysis leads to an Activity Based Management business model from which management can make decisions to improve the effectiveness of the organization. These improvements can take the form of incremental process improvement using Total Quality, Just-in-Time or Reengineering.

In Activity Based Costing:

- All costs reside in resources, which are such things as material, labor, space, equipment and services.
- Resources are consumed by activities which have no inherent cost.
- The cost associated with activities represents the amount of resource they consume per unit of activity.
- Resources and activities are then applied to cost objects, that is, the purpose for which the resource is consumed and the activity is performed.
- Each resource and activity has a unit of measure which defines the amount of the resource consumed or activity required by a unit of demand for it.
- Resources can be consumed by resources (e.g. office space resource is consumed by an employee resource), by activities (e.g. telephone resource is consumed by a customer service call activity) or by cost objects (e.g. material resource is consumed by a product cost object).
- Activities can be performed in support of another activity (e.g. invoice printing activity supports the billing activity) or in response to a cost object (e.g. purchase orders are issued to support the material acquisition process).
- A cost object can be a process or product and either an interim cost object or an end user (customer) cost object.

Nine Steps to Activity Based Management

1. Define the project scope.
2. Identify activities and their drivers.
3. Lay out the process flow.
4. Collect related date and rules.
5. Identify the ABC modeling tool to be used.
6. Build the model using the selected tool.
7. Test and validate the model.
8. Analyze the model results.
9. Take Action.

The activity based model bridges the gap between the financial system and the various operational systems of the organization. Properly designed and implemented, it can provide better information for decision making and business improvement than either of those systems alone, because it contains both *operational and financial data* built into a model that reflects how the business actually operates.

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Notes from –
"BEST PRACTICES IN IMPLEMENTING MANAGERIAL COST ACCOUNTING",
Office of Inspector General, April 24, 2000

Cost accounting information supports all three aspects of accountability and cost information supports decision making in a variety of different business environments, such as:

1. Financial Accounting - to assist Federal financial report users in evaluating service efforts, costs, and the accomplishments of the reporting entity;
2. Budgeting - to plan and make resource allocation decisions;
3. Managing - to manage resources in the accomplishment of broad program purposes, to manage the unit cost of output to ensure that units of output are produced as inexpensively as possible, and to set fees.

In each of these environments, management must know the cost of their activities in order to make good business decisions and to report financial and performance information to external parties such as Congress and the public.

<u>COST ACCOUNTING STRATEGY</u>

One of the best practices we identified was an a*gency-developed strategy* that clearly defines the objectives and uses of cost accounting. Those agencies shared the strategy with all levels of staff throughout their agency during the system development.

<u>AGENCY CULTURE, MANAGEMENT ATTITUDES, AND CORE COMPETENCIES</u>

An agency's culture plays an important role in the success of implementing managerial cost accounting. Some agencies emphasize and practice good financial management, intending to set an example that other agencies can emulate. These agencies have taken the lead in implementing managerial cost accounting and have been willing to share their experiences with other agencies. A culture of practicing good financial management is influenced by senior management attitudes and staffing capabilities.

<u>PROJECT IMPLEMENTATION PRACTICES</u>

Managerial cost accounting has a broad range of uses. And if it is to be used effectively, much effort will be required to develop and implement this new management tool. We identified several project implementation practices which helped ensure the successful use of managerial cost accounting. These were the use of: (1) teams or committees, (2) pilot testing, (3) communication, (4) an interim period, and (5) OIG involvement.

<u>COMMITMENT TO THE PROCESS</u>

The uses of managerial cost accounting are diverse and require a change in management attitudes and practices. For example, the typical government manager is familiar with the practice of managing "to the budget," where the success of a project can be measured by the ability to execute a project within the budgeted costs and time frame. In contrast, managerial cost accounting provides new measures of resource usage, where success could be measured by the ability to execute a project using the most cost-effective means. Quality cost information can inspire new users to question high costs and consider alternative methods to accomplish an activity. This is especially true when managers are accountable for their resources.

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Notes from –
"Statement #4/Managerial Cost Accounting Concepts and Standards for the Federal Government", Executive Office of the President
July 31, 1995

Managerial cost accounting should be a fundamental part of the financial management system and to the extent practical should be integrated with other parts of the system. Cost information developed for different purposes should be drawn form a common data source, and output reports should be reconcilable to each other.

The cost of government is a concern to the public. Most government service efforts and accomplishments cannot be measured in financial terms alone. However, government service efforts and accomplishments can be evaluated using both financial and non-financial measures, and "cost" is an important financial measure for government programs.

Government managers are responsible for carrying out program objectives with resources entrusted to them. Congress and federal executives make policy decisions on program priorities and allocate resources among programs. Citizens are concerned with the costs and results of federal programs that affect their interests.

Managerial cost accounting concepts and standards are aimed at achieving three general objectives:

- Provide program managers with relevant and reliable information relating costs to outputs and activities
- Provide relevant and reliable cost information to assist the Congress and executives in making decisions about allocating federal resources, authorizing and modifying programs and evaluating program performance
- Ensure consistency between costs reported in general purpose financial reports and costs reported to program managers.

In managing federal government programs, cost information is essential in the following five areas:

- Budgeting and cost control
- Performance measurement
- Determining reimbursements and setting fees and prices
- Program evaluations
- Making economic choice decisions

Managerial cost accounting and financial accounting are closely related or integrated. In part this is due to the historical development of cost accounting as a method for more detailed scorekeeping and in part because cost information generally originates with transactions recorded for financial accounting purposes.

Managerial cost accounting also provides budgetary accounting with cost information for use in preparing yearly and long-term budgets for required materials, supplies, equipment, human resources and other resources.

Cost accounting produces information directly for management use, generally classified into five types:

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- Performance measurement
- Cost reduction and control
- Determination of reimbursements and fee or price setting
- Program authorization, modification and discontinuation decisions
- Decisions to contract out work or make other changes in the methods of production

One of the most important aspects of reporting in which managerial cost accounting plays a large role is that of performance reporting. As reported in the Objectives for Federal Financial Reporting, "one reason for performing cost accounting is to assist in performance measurement" and "the topics of cost and performance measurement are related because it is by associating cost with activities or 'cost objectives' that accounting can make much of its contribution to reporting on performance."

Basic cost accounting processes

- Cost information should be collected by responsibility segments and outputs should be defined for each responsibility segment
- Full costing – measure the full cost of outputs so that total operational costs and total unit costs of outputs can be determined
- Costing methodology used should be appropriate for management's needs and the operating environment
- To provide information needed to determine and report service efforts and accomplishments – this includes the quantity of inputs and outputs and other non-financial information needed in the measurement of performance
- Should be reported in a timely manner and on a regular basis
- Should be integrated with general financial accounting.
- Information supplied to internal and external users should be reliable and useful in making evaluations or decisions
- Should be designed to accommodate any of management's special cost information needs that may arise

Certain Cost Elements

- Costs of Employee benefits
- Costs of Public assistance and social insurance programs
- Costs related to property, plant and equipment
- Non-production costs

Costing Methodology – Costs of resources consumed by responsibility segments should be accumulated by type of resource. Outputs produced by responsibility segments should be accumulated and, if practicable, measured in units. The full cost of resources that directly or indirectly contribute to the production of outputs should be assigned to outputs through costing methodologies or cost finding techniques that are most appropriate to the segment's operating environment and should be followed consistently.

Cost assignments should be performed by the following methods:

- Directly tracing costs wherever feasible and economically practicable;
- Assigning costs on a cause-and-effect basis; or
- Allocating costs on a reasonable and consistent basis.

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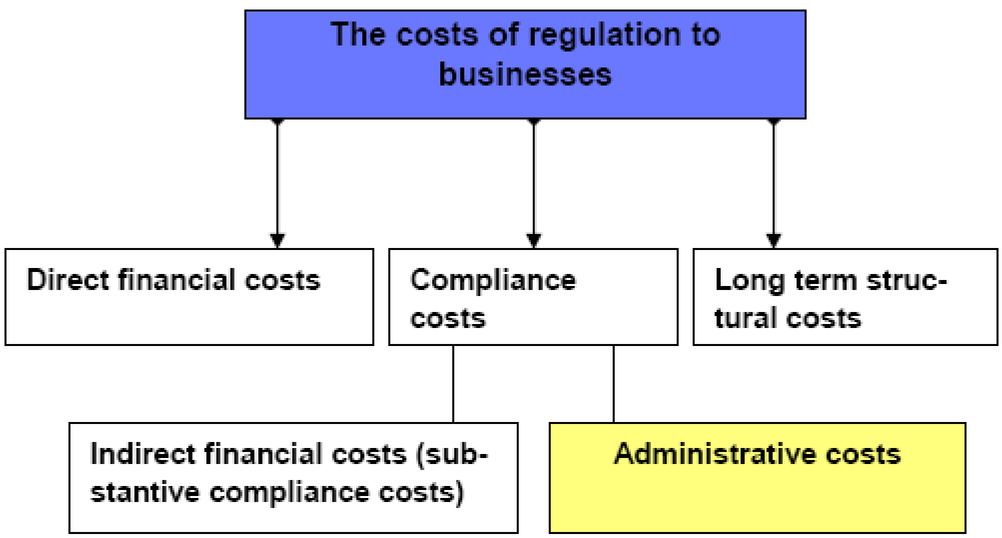
Notes from –
"International Standard Cost Model Manual",
SCM Network, 2005

The Standard Cost Model (SCM) is today the most widely applied methodology for measuring administrative costs. The SCM methodology is an activity-based measurement of the businesses' administrative burdens making it possible to follow the development of administrative burdens. At the same time the results from the SCM measurements are directly applicable to governments' simplification work, in that the results show the specific regulation and its details which are especially burdensome for businesses.

Figure 1: The different costs of regulation to businesses



Direct financial costs are the result of a concrete and direct obligation to transfer a sum of money to the Government or the competent authority i.e. administrative charges, taxes, etc.

Compliance costs are all the costs of complying with regulation, with the exception of direct financial costs (substantive compliance costs) and long term structural consequences (administrative costs).

Examples of substantive compliance costs include:

- Filters in accordance with environmental requirements
- Physical facilities in compliance with working conditions regulations

Examples of administrative costs include:

- Documentation of the installation of a filter
- An annual report on working conditions

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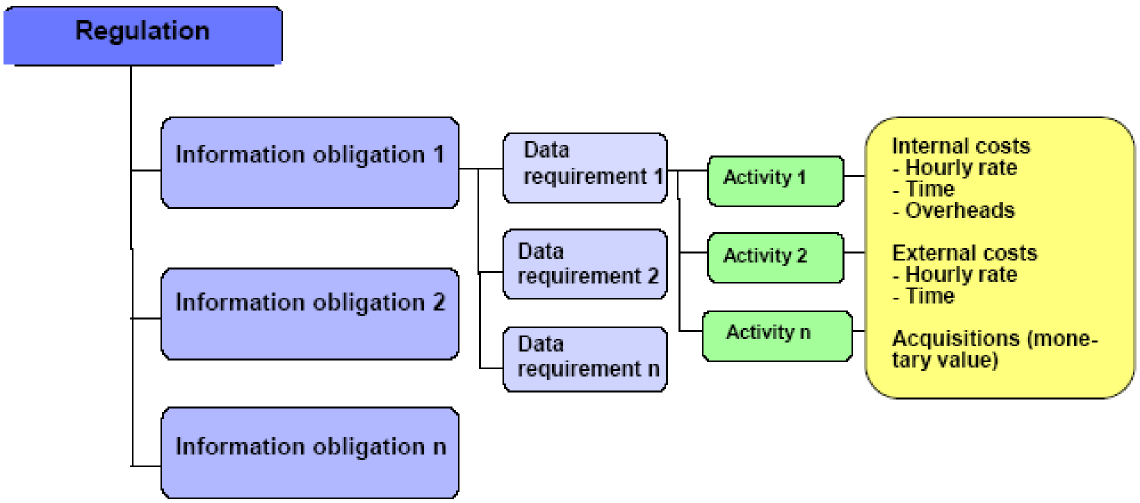
The CCM method has been developed to provide a simplified, consistent method for establishing the administrative costs imposed on business. It is a way of breaking down regulation into a range of manageable components that can be measured.

Figure 3: Structure of the Standard Cost Model:



Information obligations – are the obligations arising form the regulation to provide information and data to the public sector or third parties

Data requirements – are the elements of information that must be provided in complying with an information obligation.

Administrative activities – provide the information for each data requirement a number of specific administrative activities must be undertaken.

Cost parameters – for each administrative activity a number of cost parameters need to be collected.

- Price – consists of a fee, wage costs plus overhead for administrative activates done internally or hourly cost for external service providers
- Time – amount of time required to complete the administrative activity
- Quantity – comprises of the size of the population of businesses affected and the frequency that the activity must be completed each year

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Notes from DEREK BASHAM –

(Based on information contained in **"Accounting Best Practices",** by Steven M Bragg)

1. Audit bills of material
2. Audit labor routings
3. Eliminate high-leverage overhead allocation bases
4. Assign overhead personnel to specific sub-plants
5. Eliminate labor variance reporting
6. Follow a schedule of inventory obsolescence reviews
7. Eliminate the tracking of work-in-process inventory
8. Implement activity-based costing
9. Implement target costing
10. Limit access to unit of measure changes
11. Report on landed cost instead of supplier price
12. Review cost trends
13. Review material scrap levels
14. Revise traditional cost accounting reports